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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10:076,818	02/14/2002	Nikhil V. Kelkar	NSC1P229/P05148	2031

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EXAMINER

KIM, PETER B

ART UNIT PAPER NUMBER

2851

DATE MAILED: 01/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/076,818	KELKAR ET AL.	
	Examiner	Art Unit	
	Peter B. Kim	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Applicant's arguments filed on December 8, 2003 have been fully considered.

#### ***Specification***

The disclosure is objected to because of the following informalities: on page 1, line 13, "SMB" seems to be a typo.

Appropriate correction is required.

#### ***Claim Objections***

Claim 13 is objected to because of the following informalities: Claim 13 is dependent on the "apparatus of claim 10." However, claim 10 is a method claim. Appropriate correction is required. In the interest of expediting prosecution, Claim 13 is assumed to be dependent on Claim 12.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5, 12, 14 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Ishikawa et al. (Ishikawa) (6,583,032).

Ishikawa discloses an apparatus and a method of scribing a semiconductor wafer comprising a stage (32), configured to support a wafer (W), an imaging unit of infrared camera

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(38) to image the wafer, generating a picture of wafer from the image and a computer using the picture to identify the scribe lines and scribing the wafer using the lines and dicing the wafer using the scribe lines (col. 3, lines 30-67). It is inherent in Ishikawa that with an infrared camera an image is generated by measuring emissivity of features.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al. (Ishikawa) in view of Walker et al. (Walker) (6,275,277).

Ishikawa discloses the claimed invention as discussed above; however, Ishikawa does not disclose the heating of the wafer to predetermined temperature wherein the predetermined temperature is approximately 90 degrees C or less. Walker also teaches heating the wafer to predetermined temperature of approximately 90 degrees C or less (col. 8, lines 47-57).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide the method of heating and a temperature controller for heating the wafer to a predetermined temperature in order to pre-cure and evaporate solvents as taught by Walker in col. 8, lines 50-55.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al. (Ishikawa) in view of Hasegawa (2003/0038343).

Ishikawa discloses the claimed invention as discussed above; however, Ishikawa does not disclose the wafer covered with opaque material. Hasegawa discloses a method of scribing a semiconductor wafer coated with an opaque material (115). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide the coating of opaque material to the wafer in order to provide a sealing film as taught by Hasegawa in para 0061.

Claims 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa in view of Ueta (6,590,919).

Ishikawa discloses the claimed invention as discussed above; however, Ishikawa does not disclose using X-rays to image the wafer. Ueta discloses using x-ray to image the wafer and to divide the wafer into chips by scribing (col. 6, line 39 – col. 7, line 44). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide another means to image the wafer where infrared camera imaging is in appropriate as taught by Ueta in col. 6, lines 39-65.

Claims 11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa in view of Hahn et al. (Hahn) (6,131,880).

Ishikawa discloses the claimed invention as discussed above; however, Ishikawa does not disclose using ultrasound to image the wafer. Hahn discloses using ultrasound to image and scribe the wafer (col. 10, lines 1-12). Therefore, it would have been obvious to one of ordinary

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skill in the art at the time of invention to provide another means to image the wafer where infrared camera imaging is in appropriate as taught by Hahn in col. 10, lines 1-12.

***Remarks***

Applicant did not respond to the objections to specification and claims from the last office action. The same objections are repeated in the current office action for applicant's convenience.

In response to applicant's arguments 102 rejections based on Hasegawa and Walker are withdrawn.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

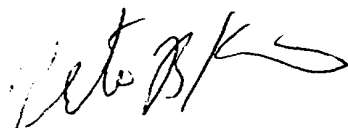
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Kim whose telephone number is (703) 305-0105 (after Jan. 29, 2003: 571-272-2120). The examiner can normally be reached on Monday-Thursday from 8:30 AM to 6:00 PM. The examiner can also be reached on alternate Fridays during the same hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703 308 2847. The fax phone numbers for the organization where this application or proceeding is assigned is 703 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308- 0956.

A handwritten signature in black ink, appearing to read 'Peter B. Kim', with a stylized flourish at the end.

Peter B. Kim  
Patent Examiner  
January 13, 2004